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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/708,492 | 11/09/2000 | Pui Lun Lau | 6202-41 | 2609 |

22204 7590 01/12/2004

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|---|---|
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| **ART UNIT** | **PAPER NUMBER** |
| 2155 | 2 |

DATE MAILED: 01/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/708,492 | LAU, PUI LUN | |
| | Examiner | Art Unit | |
| | Benjamin R Bruckart | 2155 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *09 November 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## *Detailed Action*

Claims 1-45 are pending in this Office Action.

## *Claim Objections*

Claim 12 is objected to because of the following informalities: line 3, the word control is missing the first character 'c'. Appropriate correction is required.

Claim 41 is not objected to but the examiner notes it could be indented along with the other claims.

## *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 38 recites the limitation "said serial ports " in claim 38, lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

## *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 9-10, 11-14, 17, 19-20, 30, 36, 40-42, 44-45 are rejected under 35 U.S.C 102(b) as being anticipated by U.S. Patent No. 5,781,549 by Dai.

Regarding claim 1, a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Dai: col. 4, lines 38-43, Figure 1), said multiple port unit comprising:

plural network ports (Dai: col. 2, lines 25-33; col. 4, lines 38-43), each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Dai: col. 2, lines 25-33; col. 4, lines 38-43; where Ethernet ports are network ports);

plural communication ports (Dai: col. 2, lines 25-33, col. 4, lines 38-43), each of said communication ports being configured to couple the multiple port unit to a peripheral device (Dai: col. 2, lines 25-33, col. 4, lines 38-43; where Ethernet ports are communication ports); and

a control unit configured to interrogate the network links and to communicatively couple said communication ports to a selected one of said network ports based on the interrogation of the network links (Dai: col. 2, lines 48-59).

Regarding claim 2, a multiple port unit as recited in claim 1, wherein said network ports are configured to couple the multiple port unit to plural computers and wherein said control unit is configured to interrogate each of the plural the computers and to control the peripheral devices based on the interrogation of the computers (Dai: col. 2, lines 48-59).

Regarding claim 3, a multiple port unit as recited in claim 2, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Dai: col. 8, lines 43-54; alternating putting data on the bus for processing).

Regarding claim 4, a multiple port unit as recited in claim 3, wherein said network ports comprise Ethernet ports (Dai: col. 2, lines 25-33).

Regarding claim 7, a multiple port unit as recited in claim 1, where said control unit is configured to interrogate the network links using a network carrier signal (Dai: col. 8, lines 33-54 where the carrier signal is modulated with the clock cycle).

Regarding claim 9, a multiple port unit as recited in claim 2, comprising two network ports and 8 communications ports (Dai: col. 2, lines 25-33; Ethernet ports are network and communication ports).

Regarding claim 10, a multiple port unit as recited in claim 2, further comprising a data bus coupled to said control unit (Dai: col. 2, lines 63- col. 3, line 2; Figures 2 tag 230), said network ports and said communication ports (Dai: Figure 2 tags 101-124 and tag 150).

Regarding claim 11, a computer architecture comprising:

plural computers (Dai: col. 4, lines 38-43, Figure 1; DTEs are computers connected to the switch);

plural peripheral devices (Dai: col. 4, lines 38-43, Figure 1; DTEs are devices connected to the switch); and

a multiple port unit having plural network ports (Dai: col. 2, lines 25-33, col. 4, lines 38-43), plural communication ports (Dai: col. 2, lines 25-33, col. 4, lines 38-43), and a control unit (Dai: col. 2, lines 48-59), each of said network ports being coupled to one of said plural computers over a respective network link (Dai: col. 4, lines 38-43, Figure 1 shows the network coupling the DTEs, DTEs taken to be devices like computers), each of said communication ports being coupled to a peripheral device (Dai: col. 4, lines 38-43, Figure 1 shows the network coupling the DTEs, DTEs taken to be devices like computers), said control unit being configured to interrogate the network links and to communicatively couple said communication ports to a selected one of said network ports based on the interrogation of the network links (Dai: col. 2, lines 48-59).

Regarding claim 12, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate each of the plural computers and to control the peripheral devices based on the interrogation of the computers (Dai: col. 2, lines 48-59).

Regarding claim 13, a computer architecture as recited in claim 12, wherein said control unit interrogates the computers over each of the network links in an alternating manner (Dai: col. 8, lines 43-54; alternating putting data on the bus for processing).

Regarding claim 14, a computer architecture as recited in claim 13, wherein said network ports comprise Ethernet ports (Dai: col. 2, lines 25-33).

Regarding claim 17, a computer architecture as recited in claim 11, wherein said control unit is configured to interrogate said network links using a network carrier signal (Dai: col. 8, lines 33-54 where the carrier signal is modulated with the clock cycle).

Regarding claim 19, a computer architecture as recited in claim 12, comprising two network ports and 8 communications ports (Dai: col. 2, lines 25-33; Ethernet ports are network and communication ports).

Regarding claim 20, a computer architecture as recited in claim 12, wherein said peripheral devices are intelligent electronic devices (Dai: col. 4, lines 38-43, Figure 1 shows the network coupling the DTEs, DTEs taken to be intelligent electronic devices)

Regarding claim 30, a multiple port unit adapted for coupling one or more computers to multiple peripheral devices over a network (Dai: col. 4, lines 38-43, Figure 1), said multiple port unit comprising:

plural network ports (Dai: col. 2, lines 25-33; col. 4, lines 38-43), each of said network ports being configured to couple the multiple port unit to a computer over a respective network link (Dai: col. 2, lines 25-33; col. 4, lines 38-43; Ethernet ports form network links);

plural communication ports (Dai: col. 2, lines 25-33; col. 4, lines 38-43), each of said communication ports being configured to couple the multiple port unit to a peripheral device (Dai: col. 2, lines 25-33; col. 4, lines 38-43; Ethernet ports are communication ports); and

control means for interrogating the network links and communicatively coupling said communication ports to a selected one of said network ports based on the interrogation of the network links (Dai: col. 2, lines 48-59).

Regarding claim 36, a multiple port unit as recited in claim 30, wherein said control means comprises means for detecting a network carrier signal (Dai: col. 8, lines 33-54 where the carrier signal is modulated with the clock cycle).

Regarding claim 40, a method of coupling plural peripheral devices to computers (Dai: col. 2, lines 25-33; col. 4, lines 38-43; Figure 1), said method comprising the steps of:

interrogating the status of plural network connections with a control unit of a multiple port unit having plural network ports coupled to the plural network connections and plural communication ports coupled to peripheral devices (Dai: col. 2, lines 25-33 48-59; col. 4, lines 38-43); and

coupling the plural communication ports to one of the network connections based on the results of said step of interrogating the status of plural network connections (Dai: col. 8, lines 43-54).

Regarding claim 41, a method as recited in claim 40 further comprising the steps of:

interrogating the status of plural computers respectively coupled to the network connections (Dai: col. 2, lines 48-59); and

controlling the peripheral devices based on the results of said step of interrogating the status of plural computers (Dai: col. 2, lines 52-59).

Regarding claim 42, a method as recited in claim 41, wherein said step of interrogating the status of plural network connections comprises detecting a carrier on each network connection (Dai: col. 8, lines 33-54 where the carrier signal is a modulated signal with the clock cycle).

Regarding claim 44, a method as recited in claim 41, further comprising the step of maintaining a record of the status of each computer and each network connection in the control unit (Dai: col. 3, lines 3-5; col. 2, lines 55-59).

Regarding claim 45, a method as recited in claim 41, further comprising the step of transferring status data between the computers at the direction of the control unit (Dai: col. 8, lines 43-54).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5 and 15, 22-24, 26, 28-29, 31-34, 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No. 5,864,554 by Rostoker et al.

Claim 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No. 5,761,084 by Edwards.

Claim 8, 18 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No. 4,937,817 by Lin.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of itself.

Claim 25 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No. 5,864,554 by Rostoker et al in further view of U.S. Patent No. 5,761,084 by Edwards.

Claim 27 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,781,549 by Dai in view of U.S. Patent No. 5,864,554 by Rostoker et al in further view of U.S. Patent No. 4,937,817 by Lin.

Regarding claim 5,

The Dai reference teaches a network switch that does packet segmentation and switching with a plurality of ports.

The Dai does not explicitly state the use of serial ports.

The Rostoker reference teaches a multiple port unit as recited in claim 4 (Rostoker: col. 4, lines 65- col. 2, lines 30; Figure 42, col. 25, lines 57-62), wherein said communication ports comprise serial ports (Rostoker: col. 32, lines 46-48; col. 25, lines 53-63).

The Rostoker reference further teaches using compression/decompression decoder/encoder circuits compress huge amounts of data into data streams to be moved across bandwidth constricted networks (Rostoker: col. 5, lines 35-42).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of serial ports as taught by Rostoker in order to compress/decompress large amounts of transfer for transmission across a bandwidth constricted network (Rostoker: col. 5, lines 35-42).

Regarding claim 6,

The Dai reference teaches a network switch that does packet segmentation and switching with a plurality of ports.

The Dai reference does not explicitly state the use of two redundant power supplies.

The Edwards reference teaches two redundant power supplies (Edwards: col. 1, lines 53-58).

The Edwards reference further teaches in the event of a power outage it supplies power to a wide area network switch that couples others and avoids failure of routing (Edwards: col. 1, lines 31-49).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of two redundant power supplies as taught by Edwards in order to avoid failure of routing services (Edwards: col. 1, lines 31-49).

Regarding claim 8,

The Dai reference teaches a network switch that does packet segmentation and switching with a plurality of ports.

The Dai reference does not explicitly state the use of the Packet Internet Groper when interrogating links.

The Lin reference teaches a multiple port unit as recited in claim 2 (Lin: Figure 2, tag 208), wherein said control unit is configured to interrogate the computers using Packet Internet Groper (Lin: col. 11, lines 64- col. 12, line 2; ping).

The Lin reference further teaches that periodic pinging monitors proper operation (Lin: col. 11, lines 64 - col. 12, line 2)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of Packet Internet Groper (ping) as taught by Lin in order to monitor proper operation (Lin: col. 11, lines 64 - col. 12, line 2).

Regarding claim 15,

The Dai reference teaches a network switch that does packet segmentation and switching with a plurality of ports.

The Dai does not explicitly state the use of serial ports.

The Rostoker reference teaches a computer architecture as recited in claim 14 (Rostoker: col. 4, lines 65- col. 2, lines 30; Figure 42, col. 25, lines 57-62), wherein said communication ports comprise serial interfaces (Rostoker: col. 32, lines 46-48).

The Rostoker reference further teaches using compression/decompression decoder/encoder circuits compress huge amounts of data into data streams to be moved across bandwidth constricted networks (Rostoker: col. 5, lines 35-42).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of serial ports as taught by Rostoker in order to compress/decompress large amounts of transfer for transmission across a bandwidth constricted network (Rostoker: col. 5, lines 35-42).

Regarding claim 16,

The Dai reference teaches a network switch that does packet segmentation and switching with a plurality of ports.

The Dai reference does not explicitly state the use of two redundant power supplies.

The Edwards reference teaches two redundant power supplies (Edwards: col. 1, lines 53-58).

The Edwards reference further teaches in the event of a power outage it supplies power to a wide area network switch that couples others and avoids failure of routing (Edwards: col. 1, lines 31-49).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of two redundant power supplies as taught by Edwards in order to avoid failure of routing services (Edwards: col. 1, lines 31-49).

Regarding claim 18,

The Dai reference teaches a network switch that does packet segmentation and switching with a plurality of ports.

The Dai reference does not explicitly state the use of the Packet Internet Groper when interrogating links.

The Lin reference teaches a computer architecture as recited in claim 12 (Lin: Figure 2, tag 208), wherein said control unit is configured to interrogate the computers using Packet Internet Groper (Lin: col. 11, lines 64- col. 12, line 2; ping).

The Lin reference further teaches that periodic pinging monitors proper operation (Lin: col. 11, lines 64 - col. 12, line 2)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of Packet Internet Groper (ping) as taught by Lin in order to monitor proper operation (Lin: col. 11, lines 64 - col. 12, line 2).

Regarding claims 21,

The Dai reference teaches a multi-port unit coupled to data terminal equipment (Dai: col. 4, lines 38-43, Figure 1).

The Dai reference does not explicitly state the intelligent electronic devices are protective relays.

The Dai reference does say the architecture of the multi-port unit can be implemented utilizing various technologies with respect integrated circuits, programmed logic or software on different or microprocessors and microcontrollers (Dai: col. 4, lines 17-30).

It would have been obvious at the time of the invention to one of ordinary skill in the art to couple the multi-port unit to intelligent electronic devices that are protective relays as taught by Dai because these devices operate through similar chips, ports, processors and controllers (Dai: col. 4, lines 17-30).

Regarding claim 22,

The Dai reference teaches a multiple port unit adapted for coupling one or more computers to multiple intelligent electronic devices over a network (Dai: col. 4, lines 38-43, Figure 1), said multiple port unit comprising:

two Ethernet ports (Dai: col. 2, lines 25-33), each of said Ethernet ports being configured to couple the multiple port unit to a computer over a respective Ethernet link (Dai: col. 2, lines 25-33; col. 4, lines 38-43); and

a control unit configured to interrogate the Ethernet links and to communicatively couple said serial ports to a selected one of said Ethernet ports based on the interrogation of the Ethernet links (Dai: col. 2, lines 48-59).

The Dai reference does not explicitly state the use of serial ports.

The Rostoker reference teaches plural serial ports, each of said serial ports being configured to couple the multiple port unit to intelligent electronic devices (Rostoker: col. 32, lines 46-48; col. 25, lines 53-63).

The Rostoker reference further teaches using compression/decompression decoder/encoder circuits compress huge amounts of data into data streams to be moved across bandwidth constricted networks (Rostoker: col. 5, lines 35-42).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of serial ports as taught by Rostoker in order to compress/decompress large amounts of transfer for transmission across a bandwidth constricted network (Rostoker: col. 5, lines 35-42).

Claims 23, 24, 26, 28-29 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Rostoker et al and Dai.

Regarding claim 23, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate each of the plural the computers and to designate a selected one of the computers as an active computer to control the intelligent electronic devices based on the interrogation of the computers (Dai: col. 2, lines 48-59).

Regarding claim 24, a multiple port unit as recited in claim 23, wherein said control unit interrogates the computers over each of the Ethernet links in an alternating manner (Dai: col. 8, lines 43-54; alternating putting data on the bus for processing).

Regarding claim 26, a multiple port unit as recited in claim 22, wherein said control unit is configured to interrogate the Ethernet links using an Ethernet carrier signal (Dai: col. 8, lines 33-54 where the carrier signal is modulated with the clock cycle).

Regarding claim 28, a multiple port unit as recited in claim 23, comprising 8 serial ports (Rostoker: col. 25, lines 53-63; Dai: col. 2, lines 25-33).

Regarding claim 29, a multiple port unit as recited in claim 22, further comprising a data bus coupled to said control unit (Dai: col. 2, lines 63- col. 3, line 2; Figures 2 tag 230), said Ethernet ports (Dai: col. 2, lines 25-33; Figure 1, tags 101-124), and said serial ports (Rostoker: col. 25, lines 53-63).

Regarding claim 25,

The Dai and Rostoker references teaches a network switch that does packet segmentation and switching with a plurality of ports.

The Dai and Rostoker references do not explicitly state the use of two redundant power supplies.

The Edwards reference teaches two redundant power supplies (Edwards: col. 1, lines 53-58).

The Edwards reference further teaches in the event of a power outage it supplies power to a wide area network switch that couples others and avoids failure of routing (Edwards: col. 1, lines 31-49).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai and Rostoker while employing the use of two redundant power supplies as taught by Edwards in order to avoid failure of routing services (Edwards: col. 1, lines 31-49).

Regarding claim 27,

The Dai and Rostoker references teach a network switch that does packet segmentation and switching with a plurality of ports.

The Dai and Rostoker references do not explicitly state the use of the Packet Internet Groper when interrogating links.

The Lin reference teaches a multiple port unit as recited in claim 23 (Lin: Figure 2, tag 208), wherein said control unit is configured to interrogate the computers using Packet Internet Groper (Lin: col. 11, lines 64- col. 12, line 2; ping).

The Lin reference further teaches that periodic pinging monitors proper operation (Lin: col. 11, lines 64 - col. 12, line 2)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai and Rostoker while

employing the use of Packet Internet Groper (ping) as taught by Lin in order to monitor proper operation (Lin: col. 11, lines 64 - col. 12, line 2).

Regarding claim 31,

The Dai reference teaches a multiple port unit as recited in claim 30, wherein said network ports are configured to couple the multiple port unit to plural computers (Dai: col. 4, lines 38-43, Figure 1) and wherein said control means comprises computer interrogating means for interrogating each of the plural computers (Dai: col. 2, lines 48-59).

The Dai reference does not explicitly state the designating a computer for control of the peripheral devices.

The Rostoker reference teaches designating a selected one of the computers as an active computer to control the peripheral devices based on the interrogation of the computers (Rostoker: col. 8, lines 32-49).

The Rostoker reference further teaches using compression/decompression decoder/encoder circuits compress huge amounts of data into data streams to be moved across bandwidth constricted networks (Rostoker: col. 5, lines 35-42).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai while employing the use of serial ports as taught by Rostoker in order to compress/decompress large amounts of transfer for transmission across a bandwidth constricted network (Rostoker: col. 5, lines 35-42).

Claims 32, 33, 38, 39 are rejected under the same rationale given above. In the rejections set fourth, the examiner will address the additional limitations and point to the relevant teachings of Rostoker et al and Dai.

Regarding claim 32, a multiple port unit as recited in claim 31, wherein said computer interrogating means interrogates the computers over each of the network links in an alternating manner (Dai: col. 8, lines 43-54; alternating putting data on the bus for processing).

Regarding claim 33, a multiple port unit as recited in claim 32, wherein said network communication ports comprise Ethernet ports (Dai: col. 2, lines 25-33).

Regarding claim 34, a multiple port unit as recited in claim 33, wherein said communication ports comprise serial ports (Rostoker: col. 32, lines 46-48; col. 25, lines 53-63).

Regarding claim 38, a multiple port unit as recited in claim 30, further comprising a data bus coupled to said control means (Dai: col. 2, lines 63- col. 3, line 2; Figures 2 tag 230), said network ports (Dai: col. 2, lines 63- col. 3, line 2; Figures 2 tag 230) and said serial ports (The examiner will evaluate this claim based on serial ports, Rostoker: col. 32, lines 46-48; col. 25, lines 53-63)

Regarding claim 39, a multiple port unit as recited in claim 31, comprising two network ports and 8 communications ports (Dai: col. 2, lines 25-33; Ethernet ports are network and communication ports).

Regarding claim 35,

The Dai and Rostoker references teaches a network switch that does packet segmentation and switching with a plurality of ports.

The Dai and Rostoker references do not explicitly state the use of two redundant power supplies.

The Edwards reference teaches two redundant power supplies (Edwards: col. 1, lines 53-58).

The Edwards reference further teaches in the event of a power outage it supplies power to a wide area network switch that couples others and avoids failure of routing (Edwards: col. 1, lines 31-49).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai and Rostoker while employing the use of two redundant power supplies as taught by Edwards in order to avoid failure of routing services (Edwards: col. 1, lines 31-49).

Regarding claim 37,

The Dai and Rostoker references teach a network switch that does packet segmentation and switching with a plurality of ports.

The Dai and Rostoker references do not explicitly state the use of the Packet Internet Groper when interrogating links.

The Lin reference teaches a multiple port unit as recited in claim 31 (Lin: Figure 2, tag 208), wherein said control unit is configured to interrogate the computers using Packet Internet Groper (Lin: col. 11, lines 64- col. 12, line 2; ping).

The Lin reference further teaches that periodic pinging monitors proper operation (Lin: col. 11, lines 64 - col. 12, line 2)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai and Rostoker while employing the use of Packet Internet Groper (ping) as taught by Lin in order to monitor proper operation (Lin: col. 11, lines 64 - col. 12, line 2).

Regarding claim 43,

The Dai reference teaches a network switch that does packet segmentation and switching with a plurality of ports.

The Dai reference does not explicitly state the use of the Packet Internet Groper when interrogating links.

The Lin reference teaches wherein said step of interrogating the status of plural computers comprises using Packet Internet Groper (Lin: col. 11, lines 64- col. 12, line 2; ping).

The Lin reference further teaches that periodic pinging monitors proper operation (Lin: col. 11, lines 64 - col. 12, line 2)

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the multiple port packet switch as taught by Dai and Rostoker while

employing the use of Packet Internet Groper (ping) as taught by Lin in order to monitor proper operation (Lin: col. 11, lines 64 - col. 12, line 2).

***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U. S. Patent No. 5,555,543 issued to Grohoski et al.

U. S. Patent No. 4,528,611 issued to Udren.

U. S. Patent No. 5,625,678 issued to Blomfield-Brown.

U. S. Patent No. 5,903,559 issued to Acharya et al.

U. S. Patent No. 5,548,802 issued to Barnes et al.

U. S. Patent No. 4,644,440 issued to Kenny et al.

U. S. Patent No. 5,355,375 issued to Christensen.

U. S. Patent No. 6,229,538 issued to McIntyre et al.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R Bruckart whose telephone number is (703) 305-0324. The examiner can normally be reached on 8:00-5:30 PM with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (703) 308-6662. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0324.

Benjamin R Bruckart

Examiner

Art Unit 2155

brb

December 16, 2003

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER